AMENDMENTS TO THE CLAIMS

Please amend the claims as follows by deleting those portions of the claims that are shown in "strike-out" or double brackets and inserting those portions that are underlined.

1-4. (Cancelled)

5. (Currently Amended) A compound of formula II:

$B\text{-}R\text{-}A\text{-}NHN{=}C(R^1R^2)$ II

or a derivative thereof, wherein:

A is NH(C=O)-, NH(C=S)-, NHNH(C=O)-, or NHNH(C=S)- or a direct bond to R;

B is an amino or thiol reactive moiety;

R is an aliphatic divalent group having any combination of the following groups, which are combined in any order: cycloalkylene, $C(R^{10})_2$, $-C(R^{10})=C(R^{10})-$, $>C=C(R^{12})(R^{13})$, $>C(R^{12})(R^{13})$, $-C\equiv C-$, O, $S(G)_a$, $P(J)_b(R^{10})$, $P(J)_b(LR^{10})$, $N(R^{10})$, $>N^+(R^{12})(R^{13})$ and C(L); where a is 0, 1 or 2; b is 0, 1, 2 or 3; G is O or NR^{10}; J is S or O; and L is S, O or NR^{10}; each R^{10} is a monovalent group independently selected from hydrogen and $M^1\text{-}R^{14}$; each M^1 is a divalent group independently having any combination of the following groups, which groups are combined in any order: a direct link, arylene, heteroarylene, cycloalkylene, $C(R^{15})_2$, $-C(R^{15})=C(R^{15})-$, $>C=C(R^{12})(R^{13})$, $>C(R^{12})(R^{13})$, $-C\equiv C-$, O, $S(G^1)_a$, $P(J)_b(R^{15})$, $P(J)_b([[L^1R^{15}]]\underline{LR^{15}})$, $N(R^{15})$, $N(COR^{15})$, $>N^+(R^{12})(R^{13})$ and $C([[L^1]]\underline{L})$; where a is 0, 1 or 2; b is 0, 1, 2 or 3; G^1 is O or NR^{15}; J is S or O; and L is S, O or NR^{15}; R^{14} and R^{15} are each independently selected from the group among hydrogen, halo, pseudohalo, cyano, azido, nitro, $SiR^{16}R^{17}R^{18}$, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy and $NR^{19}R^{20}$; R^{19} and R^{20} are each independently selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, aralkyl, heteroaryl, heteroaralkyl and heterocyclyl; R^{12} and R^{13} are selected from (i) or (ii) as follows: (i)

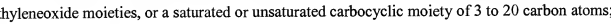
R^{12} and R^{13} are independently selected from among hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl and heteroaryl; or (ii) R^{12} and R^{13} together form alkylene, alkenylene or cycloalkylene; R^{16}, R^{17} and R^{18} are each independently a monovalent group selected from hydrogen, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy and $NR^{19}R^{20}$; and

R^{10}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19} and R^{20} can be substituted with one or more substituents each independently selected from Z, wherein Z is selected from alkyl, alkenyl, alkynyl, aryl, cycloalkyl, cycloalkenyl, hydroxy, $S(O)_hR^{30}$, $NR^{30}R^{31}$, $COOR^{30}$, COR^{30}, $CONR^{30}R^{31}$, $OC(O)NR^{30}R^{31}$, $N(R^{30})C(O)R^{31}$, alkoxy, aryloxy, heteroaryl, heterocyclyl, heteroaryloxy, heterocyclyloxy, aralkyl, aralkenyl, aralkynyl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, aralkoxy, heteroaralkoxy, alkoxycarbonyl, carbamoyl, thiocarbamoyl, alkoxycarbonyl, carboxyaryl, halo, pseudohalo, haloalkyl and carboxamido; h is 0, 1 or 2; and R^{30} and R^{31} are each independently selected from among hydrogen, halo, pseudohalo, cyano, azido, nitro, trialkylsilyl, dialkylarylsilyl, alkyldiarylsilyl, triarylsilyl, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy, amino, amido, alkylamino, dialkylamino, alkylarylamino, diarylamino and arylamino;

R^1 is ~~methyl,~~ a saturated straight chain of 3 to 20 carbon atoms, a chain of 2 to 2000 ethyleneoxide moieties, or a saturated or unsaturated carbocyclic moiety of 3 to 20 carbon atoms; and

R^2 is ~~methyl,~~ a saturated straight chain of 3 to 20 carbon atoms, a chain of 2 to 2000 ethyleneoxide moieties, or a saturated or unsaturated carbocyclic moiety of 3 to 20 carbon atoms.

6. (Currently Amended) A [[The]] compound of [[claim 5]] formula II:



B-R-A-NHN=C(R^1R^2) II

or a derivative thereof, wherein:

A is NH(C=O)-, NH(C=S)-, NHNH(C=O)-, or NHNH(C=S)- or a direct bond to R;

B is an amino or thiol reactive moiety;

R ~~further comprises, or is a combination of,~~ is a saturated straight chain of 1 to 20 carbon atoms, a chain of 2 to 2000 ethyleneoxide moieties, [[or]] a saturated or an unsaturated carbocyclic moiety of 3 to 20 carbon atoms or an aliphatic divalent group having any combination of the following groups, which are combined in any order: cycloalkylene, $C(R^{10})_2$, $-C(R^{10})=C(R^{10})-$, $>C=C(R^{12})(R^{13})$, $>C(R^{12})(R^{13})$, $-C\equiv C-$, O, $S(G)_a$, $P(J)_b(R^{10})$, $P(J)_b(LR^{10})$, $N(R^{10})$, $>N^+(R^{12})(R^{13})$ and C(L); where a is 0, 1 or 2; b is 0, 1, 2 or 3; G is O or NR^{10}; J is S or O; and L is S, O or NR^{10}; each R^{10} is a monovalent group independently selected from hydrogen and M^1-R^{14}; each M^1 is a divalent group independently having any combination of the following groups, which groups are combined in any order: a direct link, arylene, heteroarylene, cycloalkylene, $C(R^{15})_2$, $-C(R^{15})=C(R^{15})-$, $>C=C(R^{12})(R^{13})$, $>C(R^{12})(R^{13})$, $-C\equiv C-$, O, $S(G^1)_a$, $P(J)_b(R^{15})$, $P(J)_b(LR^{15})$, $N(R^{15})$, $N(COR^{15})$, $>N^+(R^{12})(R^{13})$ and C(L); where a is 0, 1 or 2; b is 0, 1, 2 or 3; G^1 is O or NR^{15}; J is S or O; and L is S, O or NR^{15}; R^{14} and R^{15} are each independently selected from the group among hydrogen, halo, pseudohalo, cyano, azido, nitro, $SiR^{16}R^{17}R^{18}$, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy and $NR^{19}R^{20}$; R^{19} and R^{20} are each independently selected from hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl, aralkyl, heteroaryl, heteroaralkyl and heterocyclyl; R^{12} and R^{13} are selected from (i) or (ii) as follows: (i) R^{12} and R^{13} are independently selected from among hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, aryl and heteroaryl; or (ii) R^{12} and R^{13} together form alkylene, alkenylene or cycloalkylene; R^{16}, R^{17} and R^{18} are each independently a monovalent group selected from hydrogen, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy and $NR^{19}R^{20}$; and

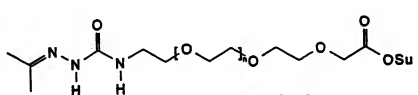
R^{10}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19} and R^{20} can be substituted with one or more substituents each independently selected from Z, wherein Z is selected from alkyl, alkenyl, alkynyl, aryl, cycloalkyl, cycloalkenyl, hydroxy, $S(O)_hR^{30}$, $NR^{30}R^{31}$, $COOR^{30}$, COR^{30},

$CONR^{30}R^{31}$, $OC(O)NR^{30}R^{31}$, $N(R^{30})C(O)R^{31}$, alkoxy, aryloxy, heteroaryl, heterocyclyl, heteroaryloxy, heterocyclyloxy, aralkyl, aralkenyl, aralkynyl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, aralkoxy, heteroaralkoxy, alkoxycarbonyl, carbamoyl, thiocarbamoyl, alkoxycarbonyl, carboxyaryl, halo, pseudohalo, haloalkyl and carboxamido; h is 0, 1 or 2; and R^{30} and R^{31} are each independently selected from among hydrogen, halo, pseudohalo, cyano, azido, nitro, trialkylsilyl, dialkylarylsilyl, alkyldiarylsilyl, triarylsilyl, alkyl, alkenyl, alkynyl, haloalkyl, haloalkoxy, aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl, heteroaralkynyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkenyl, heterocyclylalkynyl, hydroxy, alkoxy, aryloxy, aralkoxy, heteroaralkoxy, amino, amido, alkylamino, dialkylamino, alkylarylamino, diarylamino and arylamino;

R^1 is a saturated straight chain of 3 to 20 carbon atoms, a chain of 2 to 2000 ethyleneoxide moieties, or a saturated or unsaturated carbocyclic moiety of 3 to 20 carbon atoms; and

R^2 is a saturated straight chain of 3 to 20 carbon atoms, a chain of 2 to 2000 ethyleneoxide moieties, or a saturated or unsaturated carbocyclic moiety of 3 to 20 carbon atoms.

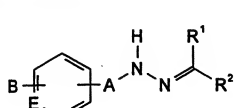
7. (Previously Presented) The compound of claim 6 that is:



8-34. (Cancelled)

35. (Previously Presented) A method of crosslinking a natural or synthetic biological molecule, comprising:

(i) preparing a conjugate of formula Va:



Va

or a derivative thereof, wherein:

A is NH(C=O), NH(C=S), NH(C=NH), NHNH(C=O), NHNH(C=S), NHNH(C=NH) or a direct bond;

B is a natural or synthetic biological molecule;

D is a carbon or nitrogen atom;

E is a carbon or nitrogen atom;

R^1 is hydrogen or a saturated straight chain of 1 to 12 carbon atoms; and

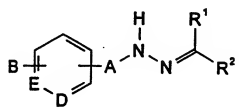
R^2 is hydrogen or a saturated straight chain of 1 to 12 carbon atoms; and

(ii) applying the conjugate to a surface wherein the surface has at least one carbonyl moiety for a time and under conditions such that the hydrazine moiety of the conjugate reacts with the carbonyl moiety of the surface forming a hydrazone bond thereby crosslinking the natural or synthetic biological molecule to the surface.

36-37. (Cancelled)

38. (Previously Presented) A method of crosslinking a natural or synthetic biological molecule, comprising:

(i) preparing a conjugate of formula Va:



Va

or a derivative thereof, wherein:

A is NH(C=O), NH(C=S), NH(C=NH), NHNH(C=O), NHNH(C=S), NHNH(C=NH) or a direct bond;

B is a natural or synthetic biological molecule;

D is a carbon or nitrogen atom;

E is a carbon or nitrogen atom;

R^1 is hydrogen or a saturated straight chain of 1 to 12 carbon atoms; and

R^2 is hydrogen or a saturated straight chain of 1 to 12 carbon atoms; and

(ii) mixing the conjugate with a second natural or synthetic biological molecule, wherein the second natural or synthetic biological molecule has at least one carbonyl moiety, for a time and under conditions such that the hydrazine moiety of the conjugate reacts with the carbonyl moiety of the second natural or synthetic biological molecule forming a hydrazone bond thereby crosslinking the natural or synthetic biological molecule to the second natural or synthetic biological molecule.

39-48. (Cancelled)

49. (Original) The compound of claim 5, wherein B is an amino reactive moiety selected from succininimidyl ester, hydroxybenzotriazolyl ester, or pentafluorophenol ester.

50-51. (Cancelled)

52. (Previously Presented) The compound of claim 5, wherein B is a thiol reactive moiety selected from maleimido, α-bromoacetyl, α-bromoacetamido or pyridyldisulfide.

53. (Cancelled)